Original Article

Emergency physician's perception of cultural and linguistic barriers in immigrant care: results of a multiple-choice questionnaire in a large Italian urban emergency department

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BACKGROUND: A poor communication with immigrants can lead to inappropriate use of healthcare services, greater risk of misdiagnosis, and lower compliance with treatment. As precise information about communication between emergency physicians (EPs) and immigrants is lacking, we analyzed difficulties in communicating with immigrants in the emergency department (ED) and their possible associations with demographic data, geographical origin and clinical characteristics.

METHODS: In an ED with approximately 85 000 visits per year, a multiple-choice questionnaire was given to the EPs 4 months after discharge of each immigrant in 2011.

RESULTS: Linguistic comprehension was optimal or partial in the majority of patients. Significant barriers were noted in nearly one fourth of patients, for only half of them compatriots who were able to translate. Linguistic barriers were mainly found in older and sicker patients; they were also frequently seen in patients coming from western Africa and southern Europe. Non-linguistic barriers were perceived by EPs in a minority of patients, more frequently in the elderly and frequent attenders. Factors independently associated with a poor final comprehension led to linguistic barriers, non-linguistic obstacles, the absence of intermediaries, and the presence of patient's fear and hostility. The latter probably is a consequence, not the cause, of a poor comprehension.

CONCLUSION: Linguistic and non-linguistic barriers, although quite infrequent, are the main factors that compromise communication with immigrants in the ED, with negative effects especially on elderly and more seriously ill patients as well as on physician satisfaction and appropriateness in using services.

KEY WORDS: Linguistic barriers; Cultural barriers; Immigrants; Emergency department

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INTRODUCTION

According to the most recent statistics of the United Nations (UN), immigrants account for approximately 3% of the worldwide population, with a peak of nearly 9% in Europe.[1] Due to constantly growing migratory fluxes, also observed in our country,[2] the healthcare services have to face the issue of serving an increasing number of immigrants and providing equity of access to healthcare services for this population.

The utilization of primary and specialized care carries several problems for immigrants, which mainly include language barriers and lack of knowledge

of system organization (e.g., how to access to these services). Consequently, the emergency departments (EDs) are the first, if not the only, reference healthcare settings, especially for irregular immigrants; although scarce and often controversial data are available on utilization of the EDs by immigrants, some reports seem to confirm higher rates of access.[3–10]

In 2011, the Regional Health and Social Care Agency published a dossier on the health status immigrants in the Emilia Romagna Region, that is the region where our Hospital is located, confirming that despite hospitalization is overall lower among immigrants than among the native population (after excluding obstetric causes), immigrants, especially irregular immigrants, tend to undergo urgent hospitalization more frequently.[11]

A successful management of patient needs is largely dependent on bridging the gap in the mutual expectations between patients and physicians, with communicative aspects being one of the most crucial issues.[12–14] Several reasons for non-effective communication have been investigated, such as cultural differences, linguistic barriers and educational level.[15–17]

Linguistic difficulties, that are the most frequent among these possible obstacles, may lead to many negative consequences, such as poor therapeutic compliance, feelings of fear and desire of "different" care.[18–19]

Some studies[14,20–22] have shown more misunderstandings between physicians and ethnic minority subjects than native patients, thus leading to inappropriate use of healthcare services, greater risk of misdiagnosis, and lower compliance with treatment. Other studies[12–14,23,24] showed that physician workload is higher with ethnic minority patients due to different means of communication, distinct needs, and higher frequency of visits.

Since few studies[25] have assessed the issue of communication problems between emergency physicians (EPs) and immigrants, we analyzed the difficulties in communicating with immigrants because of linguistic or non-linguistic barriers (related to cultural factors, educational level or external influences) and the possible associations with demographic data, geographical origin and clinical characteristics.

METHODS

Study design

We conducted an observational, cross sectional, descriptive study in accordance with the *Declaration of Helsinki*. According to the rules of our country,[26] we obtained ethical board approval because the study was based on an internal survey administered to the EPs, without any implication in therapeutic decisions.

Study setting and population

The study was carried out in the ED of the University Hospital of Parma, a large urban ED with approximately 85 000 visits yearly. The foreign-born population represents almost 13% of overall residents in the city of Parma, with immigrants from 137 countries currently residing in the city and its neighborhoods. The most important community is composed of immigrants from Moldavia, followed by Albania, Romania, Morocco and Tunisia.

Study protocol and measurements

During a period of four or three months in 2011 after discharge of each immigrant patient, a multiple-choice questionnaire (Figure 1) was administrated to the EPs, covering the following aspects: linguistic barrier; physician perception about the final level of patient understanding; final satisfaction of the EP; EP's perception of patient's fear and hostility; non-linguistic barriers (related to the level of education, cultural factors or religious beliefs) or external influences (often represented by coworkers or family members). The questionnaire was developed in this way in order to investigate the presence of any condition that can impact communication, such as linguistic and non-linguistic barriers but also external factors (presence of intermediaries, influences related to family or work,

ID patient: _____

► **Linguistic barriers:**
- – None □
- – Mild □
- – Substantial □
- – Complete □

► **Intermediaries:**
- – Present, and able to translate □
- – Present, but unable to translate □
- – No intermediaries □
- – External translators □

► **Level of comprehension of final prescriptions:**
- – Full □
- – Partial □
- – Low □
- – None □

► **Physician's final satisfaction:**
- – Good □
- – Neutral □
- – Poor □

► **Indicate, if present:**
- – Patient fear, hostillity, aggressiveness □
- – Non-linguisitic barriers □
- – External influences □

Figure 1. The questionnaire.

medical or patient aversion). It should be emphasized that the aim of the study was to investigate the EP's perception of cultural and linguistic barriers in immigrant care, and not the actual prevalence of cultural or linguistic barriers; as such, the questionnaire was administered only to the physicians whereas no matching questionnaire was administered to the patients, mainly for practical reasons (it would have been virtually impossible to ensure the presence of multilingual interpreters into the ED 24 hours a day for research purposes).

At the same time, information on demographic data (age and gender), geographical origin (classified according to the UN geo-scheme),[27] priority triage code (using the following color-coding system: red, high priority; yellow, medium priority; green, low priority; white, non-urgent cases), administrative status (i.e., registration with the NHS) and frequency of ED visit (classified on the basis of ED visits in the previous year as occasional, <3 visits/year, habitual, 3–6 visits/year, frequent, >6 visits/year) were collected.

Data analysis

All data were put into a SPSS statistical file (V 17.0) and analyzed by a contingency table. The Chi-square test was used to look for significant associations between variables and a linear regression analysis was made to highlight characteristics of patients with very poor or null final comprehension and some potentially problematic subgroups of patients (elderly patients, i.e. >60 years old; high priority codes, i.e. yellow or red; habitual or frequent attenders; patients with a poor physician final satisfaction) and also to individulize factors independently associated with a poor final comprehension.

RESULTS

During the study period, 479 questionnaires filled on a voluntary basis by all physicians of the ED (21 EPs, all native to Italy, mostly able to speak English as a bridge-language) were collected with a slight difference in individual participation rate. Due to the large number of immigrant patients consulting the ED on a daily basis (36 patients per day on average represent approximately 15% of the whole number of visits), the total number of questionnaires completed reflected a rather low response rate (approximately 15%), mostly attributable to the chaotic activity in the ED environment. The characteristics of the patients are shown in Table 1.

Most of the patients were relatively young (mean age 38 year) with a low priority triage code (white and green codes accounting for approximately 84% of cases) as reported previously.[10] Approximately 83% of the patients were occasional attenders, with less than 3 visits during the previous year. The prevalence of ethnicity was in substantial agreement with the number of representatives of each ethnic groups of our city, with the notable exception of patients born in western Africa (17.8% of overall questionnaires versus the prevalence of residents lower than 5%).

Table 1. The characteristics of patients

Variables	Results
Gender (*n*, %)	
Males	248 (51.8)
Females	231 (48.2)
Mean age (years)	38 (18–85)
Geographical origin (%)	
North Africa	23.9
Eastern Europe	22.0
West Africa	17.8
Southern Europe	14.7
Other	21.6
Priority color code (%)	
White	14.3
Green	71.0
Yellow	13.1
Red	1.7
ED use[a] (%)	
Occasional	82.6
Habitual	12.7
Frequent attainder	4.8

a: see the classification in the text.

Table 2. Summary of EPs' responses

Variables	%
Linguistic barriers	
None	43.4
Mild	32.0
Substantial	14.1
Complete	10.6
Intermediaries	
Able to translate	24.9
Not able to translate	6.4
No intermediaries	68.3
External translators	0.4
Final level of comprehension	
Full	58.1
Partial	29.5
Low	11.8
None	0.6
Physician's final satisfaction	
Good	23.0
Neutral	68.0
Poor	9.0
Presence of	
Patient fear, hostility, aggressiveness	8.4
Non-linguistic barriers	14.1
External influences	12.2

Table 3. Percentage of general population, patients with very poor or null final comprehension and some potentially problematic subgroups of patients

Variables	Significant linguistic barriers[a]	Intermediares able to translate	Age >60 years	Non-linguistic barriers	Priority codes yellow or red	Patient's fear or hostility	External influences	Very poor or null final comprehension	Frequent ED use	EPs aversion
General population	24.8	25	7.2	14.1	14.6	8.4	12.2	12.4	18	9.0
Patients with very poor or null final comprehension	83.3**	25.3*	11.6	36.6**	25.4*	16.6**	23**	NA	21.1*	34.3**
Patients over 60 years old	58.3**	63.9**	NA	22.2	33.3**	8.3	8.3	19.4	11.1	2.8
Patients with yellow or red code	43.8**	32.9	16.4**	20.5	NA	12.3	17.8	23.3*	28.7*	19.2**
Habitual or frequent ED users	20	15.5	4.7	39**	23.3*	14.4	43.5**	16.6**	NA	19**
Patients with a poor EPs final satisfaction	53.4**	23.9*	2.3	37.2**	30.4**	27.9**	30.2**	46.5**	37**	NA

Chi-square significance level, $^{*}P< 0.05$, $^{**}P < 0.01$; NA: not applicable; a: see the text.

A summary of EPs' responses is shown in Table 2, whereas Table 3 shows the characteristics of patients with very poor or null final comprehension and those of the above mentioned potentially problematic subgroups of patients.

The level of linguistic comprehension was full (43.4%) or partial (32.0%) in most of visits, with significant linguistic barriers (that is substantial or complete) recorded in nearly one fourth of the patients (24.8%). Linguistic barriers were found most frequently in the elderly (58.3% in patients aged 60 years or older) and most notably in those with serious diseases (43.8% in patients with red or yellow triage codes). Higher levels of linguistic barriers, with poor or non-linguistic comprehension, were found in patients born in western Africa (35.0%) and southern Europe (33.8%), mainly Albania.

The presence of intermediaries able to translate the language was recorded in 24.9% of patients and most notably in 54% of patients with severe linguistic barriers. Intermediaries were also present in most of elderly patients (63.9%) and in 32.9% of those with a high priority triage code (red plus yellow codes).

Non-linguistic barriers were perceived by EPs in a minority of patients (14.1%), with a higher prevalence rate of 22.2% in the elderly. The ethnic groups with the higher prevalence of non-linguistic barriers were those from eastern Africa (30.0%) and from south Asia (28.8%).

According to EP's perception, the final level of complete comprehension was 58.1%, and that of very poor or null comprehension was 12.4%. A higher percentage of poor comprehension (i.e., patients discharged from the ED not aware of their clinical conditions) was observed in the elderly (19.4% of patients aged >60 years vs. 3% of patients ≤20 years), in those born in western Africa (19.8%), and in those with a high priority triage code (23.3% in patients with red and yellow code). It is also noteworthy, however, that the hospital admission rate for yellow and red codes was higher (45% and 88%, respectively), and the admitted patients can have more opportunities to communicate and be informed during their hospital stay.

Some aspects of fear and hostility were reported in 8.4% of the study population, with a slightly higher frequency (12.3%) in patients with a red and yellow code, whereas these aspects were almost negligible in patients born in southern Europe (2.8%).

The EPs perceived the presence of external influences in 12.2% of patients, and mostly in males. The ethnic groups in which external influences were represented were those from western Africa (17%) and eastern Africa (30%). EP's final satisfaction was neutral in most of patients (68%), good in 23%, and poor in 9%.

Although frequent attenders did not show a significant degree of linguistic barrier (20.0%), they showed higher levels of external influences (43.5%) and non-linguistic barriers (39.0%). Linguistic barriers (53.4%) and lack of intermediaries able to translate (76.1%) were present in most of patients with poor EP's final satisfaction. In this group, higher levels of hostility (27.9%), non-linguistic barriers (37.2%), external influences (30.2%), condition of frequent attenders (37.0%), and poor or null final comprehension (46.5%) were recorded.

The irregular immigrants, who were patients not registered with the Italian NHS, were from South Europe (36.6%). These immigrants demonstrated that linguistic barriers were perceived in 52.1% of them, with poor or no final comprehension in 17.4%. In these patients, there were also high levels of non-linguistic barriers, external influences, and aspects of fear and hostility.

In the patients with poor or no final comprehension, linguistic barrier was present in 83.3% of them, confirming that this still represents the leading obstacle in mutual comprehension between patients and EPs. The

Table 4. Logistic regression analysis for variables potentially related to the level of final comprehension

Independent variables	*B*	Standard error	*Beta*	*t*	*P* value
Constant	–0.61	0.21	0.00	–2.85	0.00
Linguistic barriers	0.48	0.03	0.66	16.95	0.00
Absence of intermediaries	0.19	0.03	0.22	5.88	0.00
Non-linguistic barriers	0.45	0.07	0.22	6.44	0.00
Patient's fear or hostility	0.35	0.09	0.13	3.98	0.00
Geographical origin	–0.01	0.00	–0.06	–1.85	0.07
Age (recodified in groups)	–0.18	0.10	–0.06	–1.81	0.07
Frequency of ED use	0.07	0.05	0.05	1.49	0.14
Priority code	0.03	0.04	0.02	0.06	0.55
Gender	0.01	0.05	0.01	0.16	0.87

presence of intermediaries in these patients was different in comparison with the general population (25.3% vs. 25.0%), thus a linguistic "bridge" is often insufficient to fill the gap between EPs and immigrants. In patients with poor or no final comprehension, non-linguistic barriers accounted for 36.6%, fear for 16.6%, external influences for 23.0%, status of frequent attender for 21.1%. Linear regression analysis (Table 4) confirmed that the factors independently associated with a poor final comprehension were linguistic barriers, non-linguistic obstacles, absence of intermediaries, and patient's fear and hostility.

DISCUSSION

This study revealed that significant linguistic barriers exist in nearly one fourth of patients in our institution, and in only half of patients who were able to translate after admission to the ED. The patients with striking linguistic problems come from western Africa and south Europe. It is noteworthy that the vast majority of people living in Italy but coming from south Europe are Albanians, a population that speaks a non-Latin, non Anglo-Saxon language, which represent a challenge for Italian EPs. Linguistic barriers were substantially higher in elderly patients, with difficulties in approximately 58% of patients. A meaningful rate of linguistic problems was also encountered in critically ill patients (43.8%) with a low rate of intermediaries able to translate. However, given the young average age of our patients, we hypothesized that emergencies were often related to professional accidents, with negative external influence (employer, undeclared work). Non-linguistic barriers, although less frequent, play an additional and independent role in worsening the communication between EPs and immigrants, notably in the elderly and those from eastern Africa and south Asia. External influences from relatives and work environment represent a further confounding factor, which may frequently amplify the challenges in patient-physician relationship, which is in turn associated with inappropriate use of ED. Hence, in our study habitual and frequent attenders were strongly associated ($P<0.01$) with non-linguistic barriers (39%), external influences (43.5%), and poor or no final comprehension of EP's recommendations (16.6%). The average young age and the relatively low frequency of significant linguistic problems (20%) showed that regardless linguistic difficulties, the solution to off was probably more related to the areas of public health and medical care organization in the society.

The final level of comprehension of EPs' recommendations was poor or none in a significant number of patients (12.4%) although the problem was found to be more pronounced in the elderly (19.4%) and even in critically ill patients (23.3%) with predictable clinical and legal implications. A limit of this study is due to EPs selection bias, but we believe that some groups of immigrants are at a major risk of poor comprehension. The elderly, for example, more often migrate to join their own families, not for work purposes or political issues (e.g., wars, persecutions, etc.). They may be less interested in the integration process, in learning a new language, and in engaging in social affairs or empowering. Patients with high-acuity codes, on the other hand, often present alone to the ED, with the lower presence of intermediaries/translators (32.9%) than the elderly (63.9%) or those with heavy linguistic barriers (54%).

This investigation has three limitations. First, the study is based only on the perception of EPs, without a direct involvement of patients. The most methodological shortcoming is therefore the extrapolation of the subjective perception of a group of doctors to another group of immigrant patients. Second, there is a high risk of bias related to a low response rate (about 15%) and to a possible EPs tendency to experience more difficulties in communication with certain categories of patients, even for personal inclinations. Third, the results are derived

from a single institution so that the generalization of our findings is questionable.

In conclusion, the present study demonstrates unequivocally that communication difficulties with immigrant patients are a problem strongly felt by emergency physicians, particularly in the elderly and critically ill patients. This could produce dangerous consequences on the serenity (marked aversion in over one-third of the patients with poor final comprehension) and safety of the EPs work, even from a legal point of view.

The priority in emergency services is therefore to improve the communication with different languages. In fact, improving language services might lead to a better utilization of emergency care, while reducing the length of stay in the ED.[28,29] A telephone service of translation, available 24 hours a day, has been implemented in our hospital. For the same purpose, other measures have been taken in this country such as multilingual explanatory leaflets and brochures, the presence of linguistic mediators in the ED and even use of multilingual manuals with colourful pictures.[30] In a constantly growing complexity of western societies, socio-economic conditions, religious beliefs and cultural habits can constitute barriers to the delivery and appropriateness of medical care in the emergency medicine setting.[31] One step toward an improvement of this gap could be the implementation of a cultural competence training for EPs and emergency nurses. In fact, improvement in cultural competence of EPs and ENs can improve personal attitudes towards minority patients and enhance cross-cultural communication.[32] However, cultural competency training is not simple to implement, requiring, as a first step, an acknowledgment and respect of cultural practices in different populations, as well as an active work for minimizing the negative effect of cultural differences on the quality and appropriateness of the health care.[32] Moreover, we should recognize that there is a need for a research program for evaluating how cultural competency training can affect patients' satisfaction and outcomes in the ED. Following this way, we will be able to practise and deliver a fair and unbiased emergency medicine.

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